DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

JUNEAU AIRPORT TRAFFIC CONTROL TOWER
JUNEAU AUTOMATED FLIGHT SERVICE STATION
JUNEAU INTERNATIONAL AIRPORT
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JUNEAU, AK 99801

ISSUED: March 9, 2005 EFFECTIVE: March 9, 2005

Juneau Airport Traffic Control Tower (ATCT)/ Juneau Automated Flight Service Station (AFSS)
LETTER TO AIRMEN NO. 05-1

SUBJECT: Juneau Airport Wind System (JAWS) Prototype Operational Evaluation.

CANCELLATION: 3/09/06

JUNEAU AIRPORT WIND SYSTEM (JAWS) PROTOTYPE

JAWS is a prototype warning system that provides alerts of moderate or greater turbulence in selected areas near the Juneau airport. The initial operational evaluation will last approximately sixty days and may be extended up to one year.

We cannot fully ascertain the accuracy of the prototype without first-hand knowledge of actual turbulence (or non-turbulence) conditions. This data can only be obtained from pilots using the Juneau airspace. Your participation is critical to the success of this evaluation. When turbulence alerts are generated, air traffic control specialists may solicit extra pilot weather reports (PIREP) to validate the accuracy of the system.

Additionally, pilot logbooks are available at the Juneau (JNU) AFSS for your use in reporting turbulence and wind shear. As a participant, you will **not** be identified by name or aircraft registration (N-Number). Any assistance you can provide, whether via PIREP to the AFSS or ATCT or using a logbook would be greatly appreciated.

Turbulence alert levels are estimated using real-time wind measurements from a network of wind sensors (anemometers and wind profilers) located around Gastineau Channel and the Juneau airport.

The anemometers report wind speed and direction from Sheep Mountain, Eagle Crest, Mount Roberts, and Pederson Hill.

The wind profilers report wind information at 6,000 ft and below over North and South Douglas Island, and Lemon Creek.

Turbulence alerts will be available through Juneau AFSS and Juneau ATCT during the operational evaluation for the following areas:

- Runway 8 Arrival / 26 Departure
- Runway 26 Arrival / 8 Departure
- Downwind Leg (South of the runway)
- Lemon Creek
- Gastineau Channel below 2,000 ft
- Gastineau Channel from 2,000-6000 ft

There are three levels of alert severity:

- Moderate turbulence for a King Air type aircraft
- Moderate turbulence for a Boeing 737 type aircraft
- Severe turbulence for a Boeing 737 type aircraft

The JNU ATCT and AFSS will provide turbulence alerts for the areas listed above.

The JNU AFSS will also provide on request:

- Current wind speed and direction at the various anemometer locations, including a one-hour history, when available.
- A time history of wind speed and direction from an altitude of below six thousand feet in ten-minute increments for the three profilers, when available.

Juneau ATCT and AFSS (when the ATCT is closed) will continue to provide pertinent low-level wind shear alerts (LLWAS) for the airport area.

Please do not hesitate to call Juneau AFSS at 1-800-WX-BRIEF (992-7433) or local call in Juneau at 789-7380, for a standard pilot weather briefing.

Paulette L. Coleman
Air Traffic Manager,
Juneau Automated Flight Service Station

Steve Turner
Air Traffic Manager
Juneau Airport Traffic Control Tower

Juneau Airport Wind System (JAWS) Prototype Operational Evaluation Procedures

1. System and Display

The JAWS Prototype system provides wind information and turbulence alerts for the Juneau airport and surrounding area. The system and display are described in detail in the "JAWS Prototype Graphical Display Help Document", available in electronic form on the JAWS Graphical Display and in printed form in facility files.

Turbulence alerts are displayed as color-coded text on the "Alphanumeric Display" (Alpha Alerts page). A graphic depiction of the alert areas is available on the "Geographic Map Display" page. Additional pages display anemometer and profiler wind information and sensor status.

The Juneau Low Level Wind Shear Alert System (LLWAS) generates wind shear alerts that may be combined with JAWS turbulence alerts as appropriate.

2. Identifiers and Phraseology

The displayed text identifiers and associated phraseology are described below.

a. Turbulence alert areas:

08A, 26D – "RUNWAY EIGHT ARRIVAL" / "RUNWAY TWO SIX DEPARTURE"
26A, 08D – "RUNWAY TWO SIX ARRIVAL" / "RUNWAY EIGHT DEPARTURE"
DW – "DOWNWIND"
LC – "LEMON CREEK"
GC SFC-2 – "GASTINEAU CHANNEL BELOW TWO THOUSAND"
GC 2-6 – "GASTINEAU CHANNEL BETWEEN TWO THOUSAND AND SIX THOUSAND"

b. Alert severity levels:

MDT BE20 – "MODERATE TURBULENCE FOR A KING AIR"
MDT B737 – "MODERATE TURBULENCE FOR A BOEING SEVEN THIRTY SEVEN"
SVR B737 – "SEVERE TURBULENCE FOR A BOEING SEVEN THIRTY SEVEN"

c. **Alert status conditions:** There are three alert status conditions for each area. Combine the appropriate alert area with the level of severity and alert status.

1. **Alert** – " RUNWAY EIGHT ARRIVAL, MODERATE TURBULENCE FOR A KING AIR"

2. **No Alert** – On request, " DOWNWIND, NO ALERT"

3. **OTS** – "JAWS TURBULENCE INFORMATION FOR LEMON CREEK NOT AVAILABLE"
OR
"JAWS TURBULENCE INFORMATION NOT AVAILABLE" (If the system is out of service)
OR
"SHEEP MOUNTAIN WIND NOT AVAILABLE" (For individual anemometer and profiler outages"

d. Anemometer and profiler identifiers and locations:

Anemometers		Profilers
EC: Eagle Crest **MR**: Mount Roberts **SM**: Sheep Mountain	**PD**: Pederson Hill **RW**: Runway West **CF**: Center Field **RE**: Runway East	**ND**: North Douglas **LC**: Lemon Creek **SD**: South Douglas

3. Procedures

a. Turbulence alerts: Provide turbulence alert information to pilots when alerts are displayed on the JAWS Alpha Alerts page. Use the phraseology examples listed above as appropriate.

1. Juneau ATCT: Provide alerts during normal facility hours.
   a. ATIS (JNU ATCT will add)

2. Juneau AFSS: Provide alerts during the hours Juneau ATCT is closed and on request at other times.

b. Overlapping turbulence and wind shear alerts: When turbulence and wind shear alerts occur simultaneously, deliver the alerts according to the phase of flight.

EXAMPLE-
B-737 approaching from the east for landing on Runway 26. The following simultaneous alerts are displayed:

Turbulence Alert	Wind Shear Alert
26-A MDT B737	26-A WSA 20- 2MF 250 20

In this instance you would issue the Turbulence Alert followed by the Wind Shear Alert since the aircraft will encounter the turbulence first.

PHRASEOLOGY-
"(Aircraft ID), RUNWAY TWO SIX ARRIVAL, MODERATE TURBULENCE FOR A BOEING SEVEN THIRTY SEVEN, WIND SHEAR ALERT, TWO ZERO KNOT LOSS, TWO MILE FINAL, THRESHOLD WIND TWO FIVE ZERO AT TWO ZERO"

EXAMPLE-
N32324 is departing Runway 08 then turning on a right downwind for departure to the West. The following simultaneous alerts are displayed:

Turbulence Alert	Wind Shear Alert
DW MDT BE20	08-D WSA 20K+ 2MD 050 15

You would issue Wind Shear Alert followed by Turbulence Alert since the aircraft will encounter wind shear first.

PHRASEOLOGY-
"N32324, RUNWAY EIGHT DEPARTURE, WIND SHEAR ALERT, TWO ZERO KNOT GAIN, TWO MILE DEPARTURE, THRESHOLD WIND ZERO FIVE ZERO AT ONE FIVE, DOWNWIND MODERATE TURBULENCE FOR A KING AIR."

c. Anemometer and Profiler wind information: (Juneau AFSS only) Provide pertinent JAWS wind information to pilots on request during preflight and inflight weather briefings and radio contacts.

d. System outages: Consider the status of a particular "Alert Area" as either available or "out of service" as designated on the display screen. Use the appropriate phraseology from the "Alert Status Conditions" paragraph above.

1. **Juneau ATCT:** When a specific alert area or the entire system is out of service and turbulence activity is likely; (e.g.; frontal activity, convective storms, PIREPs),

   (a.) Include a statement on the ATIS.

   (b.) Pass JAWS system status information to Juneau AFSS during opening and closing procedures.

   (c.) Notify the watch supervisor. In the event the entire system is out of service, also notify the Juneau AFSS watch supervisor for issuance of a notice to airmen.

2. **Juneau AFSS:** When Juneau ATCT is closed and a specific alert area or the entire system is out of service and turbulence activity is likely; (e.g.; frontal activity, convective storms, PIREPs):

(a.) Notify pilots intending to operate within the effected Alert Area.

(b.) Pass JAWS system status information to Juneau ATCT during opening and closing procedures.

(c.) Notify the watch supervisor for issuance of a notice to airmen.

NOTE: A specific "Alert Area" can be OTS without the entire system being OTS. As an example, the alerts in the Channel might be inoperative on the display but the four areas surrounding the airport may still be providing information. In this situation, it would be appropriate to issue the statement "Turbulence Advisories unavailable in the Gastineau Channel".

e. Notices to Airmen: Watch supervisors shall ensure JAWS outage and return to service information is logged on FAA Form 7230-4 and appropriate notifications are completed.

1. **Juneau ATCT:** Notify Juneau AFSS watch supervisor.

2. **Juneau AFSS:**

   (a.) Notify the maintenance contractor, Haight & Associates, for restoral.

   (b.) Issue Notices to Airmen for individual JAWS anemometer and profiler locations.

Example-
!JNU JNU SHEEP MTN WND NOT AVBL
!JNU JNU LEMON CREEK WND NOT AVBL

(c.) Issue a Notice to Airmen for a JAWS system outage.

Example-
!JNU JNU JUNEAU AIRPORT WND SYSTEM OTS

(Note for 530: We may need to coordinate with USNO on the NOTAM for (c.), system outage; NOTAMs for (a.) & (b.) were coordinated for the original test NCP)